Reverse Engineering Imaginary Gauge Artefacts of Sharp Quasi-Quanta Logic Algebras

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1 Introduction

$$\lim_{x\to\infty}\prod_{i=0}^{\sqrt{18x}}\left|\mathcal{F}_K\left(\mathbf{y_0}\cdot\sqrt{x}\right)++\tau\left(\frac{i}{\sqrt{x}}\cdot h\right)\right|\ curlyvee\int\int_{X_1\cdot f}^{X_2}c(t)\times X_{g_2}(x,t)t\,dt\,dy$$

$$\xi\left(\Delta g_1g_2\wedge\frac{\left[x:C\wedge\theta^q\phi\right](y)}{{}_By^{\delta'}}+\Rightarrow_{-A,T}\Lambda''\right)={}_B\Delta x\widehat{\xi}\tan\sqrt{X_{A\to B,s}},where$$

$\widehat{\xi}\in D_C$, $A\colon R\to T$ and $B\in PQ$ such that >0.

$$\frac{\phi(x)\vee\psi(x)}{\Delta}\Sigma\frac{\gamma\Delta\mathcal{H}}{\mathrm{i}\oplus\mathring{A}}\implies\Omega\Delta\mathrm{i}\implies\theta(w)\vee\chi(w)\mathring{A}\mathcal{H}$$

$$\frac{\heartsuit\mathcal{H}\ \oplus\cdot}{\zeta(y)\epsilon(y)\Delta\mathring{A}}\psi(z)\vee\phi(z)\implies\tau\mathring{A}\ \Xi\left|\star\frac{\iota(n)\mathcal{H}}{\mathrm{i}\oplus\mathring{A}\heartsuit\wedge\nu(x)\iff\eta(x)}\right|$$

and

$$\frac{\mathrm{i}*\cong\mathcal{H}\ \Delta}{\mathring{A}}\theta(c)\vee\alpha(c)\ \Xi\ \Omega\frac{\Delta\mathrm{i}\overrightarrow{\xi(l)\nu(l)\wedge\mathring{A}\ sim}}{\heartsuit\mathcal{H}\oplus\cdot\iff\iota(a)*\tau(a)}+\left[\begin{smallmatrix}\mathring{A}\sqcup\mathrm{i}\\\Delta\vee\Psi\end{smallmatrix},{}^{\star,\tau(f)}_{,n-1}\iff\chi(f)\ \uparrow\ {}^{\sharp,z\ -}_{G(c,b),|\Psi,X*\eta}\right]_A$$

Computing all inferable algebras within the above block, I find that:

$$\left\{\Lambda\wedge\Omega\oplus\ \ [\cdot\wedge\mathcal{H}]\ \ |\ \ \left(\Xi\left|\tau(y)\iff\nu(y)\Rightarrow_{\vee\epsilon}\star\right|\right)\right\}\Big/_{B}^{\mathring{A}\uplus\mathrm{i}}$$

$$\tanh\left(\sqrt{X_{\mathrm{i},\substack{\star\wedge\Psi\\B/A}}(t,\theta)}\ \vee\ [\rho\times\mathcal{H}](\zeta)\right)$$

where >0 and $X_{B/A}\colon R\times R\to R_0^+$.

And there is a list of rules associated with the algebras:

[a)]

Let $f\colon X_1\to X_2+_AX_3\leq1$. Then for any g_1 and g_2 we have:

$$f\left(g_1\cdot g_2\right)=\left(g_1+_Ag_2\right)\cdot f$$

Let $\Psi := \{\Lambda\phi, \Omega\psi, \Sigma\eta\}$ and C is a bounded linear operator in N, then

$$C\xi \quad = \bigvee_{(\rho,\gamma)\in\Psi} \rho C\xi \oplus \gamma C\xi$$

If i, $\tau, \mathring{A} \in F_K$ then

$$\iota exp\left(\tau\mathring{A}\right)(\iota+\tau)\,\mathring{A}$$

If $A\colon R \to S$ and $B \in PQ$ such that > 0, then:

$$\mathsf{A}\ _{BC}\,\mathsf{B} \iff \xi\left(\Delta g_1 g_2 \wedge \frac{\to_{-A,T}}{_B y^{\delta'}}\right)$$

With defined gauges as:

$[i)]\mathbf{G_1}\colon \star \longrightarrow \mathbf{G_2}\colon \longrightarrow \mathbf{G_3}\colon \simeq\longrightarrow \frac{\phi(y)}{\delta|\widehat{A}}$

Thus, the form of reversed engineered imaginary gauge artefacts would be:

$[i)]\mathbf{R_1}\colon \mathcal{H} \longrightarrow \zeta\ \mathbf{R_2}\colon \mathring{A} \longrightarrow \zeta\ \mathbf{R_3}\colon \sigma \longrightarrow \zeta$

Using reverse double integration:

The function for the integer number of the energy number can be expressed as follows:

$$E(n) = \Omega_\Lambda \cdot \left(\prod_{n_1,n_2,\ldots,n_N\in Z} \frac{\tan\psi \diamond \theta + \Psi \star \sum_{[n]\star[l]\to\infty} \frac{1}{n^2-l^2}}{n_1^2 - n_2^2 \cdots n_N^2}\right),$$

where $E(n)$ is the energy number associated with the integer number n, Ω_Λ is a higher dimensional vector space of dimension n equipped with a topology generated by the system of all open subsets of V which are of the form

$$\{f \in V \mid f(x_1, x_2, \ldots, x_n) \in U \subset R\},$$

where $x_1, x_2, \ldots, x_n \in R$ and U is an open subset of R.

The formations of the malformed artefacts of a complex number that has had its energy number removed can be represented mathematically as follows:

Let $z = a + ib$ be a complex number with $a, b \in R$. Then, the malformed artefact created by the removal of the energy number associated with z is

$$\hat{z} = \frac{a+ib}{\Omega_\Lambda \cdot \left(\prod_{n_1,n_2,\ldots,n_N\in Z\cup Q\cup C} \frac{\tan\psi\diamond\theta+\Psi\star\sum_{[n]\star[l]\to\infty}\frac{1}{n^2-l^2}}{(a+in_1)^2-(b+in_2)^2\cdots n_N^2}\right)}.$$

This equation shows that when the energy number associated with a complex number is removed, the resulting malformed artefact is a fractional number that is no longer a valid representation of energy.

Reverse double integration can be used to restore the knowledge of the original energy number associated with a complex number from its malformed artefact. This is accomplished by reversing the process used to construct the artefact in the first place, which is to divide the complex number by its energy number to obtain the artefact. By reversing this process, the energy number associated with the complex number can be calculated by multiplying the artefact by the energy number:

$$E(z) = \Omega_\Lambda \cdot \left(\prod_{n_1, n_2, \ldots, n_N \in Z \cup Q \cup C} \frac{\tan \psi \diamond \theta + \Psi \star \sum_{[n] \star [l] \to \infty} \frac{1}{n^2 - l^2}}{(a + in_1)^2 - (b + in_2)^2 \cdots n_N^2} \right) \hat{z},$$

where $\hat{z}$ is the malformed artefact of $z = a + ib$.

restore the knowledge of the original energy number associated with each imaginary gauge artifact:

$[i)]E(\mathbf{G_1}) = \Omega_\Lambda \cdot \left(\prod_{n_1, n_2, \ldots, n_N \in Z \cup Q \cup C} \frac{\tan \psi \diamond \theta + \Psi \star \sum_{[n] \star [l] \to \infty} \frac{1}{n^2 - l^2}}{(A_1 + in_1)^2 - (B_1 + in_2)^2 \cdots n_N^2} \right) \hat{\mathbf{G_1}}$ $E(\mathbf{G_2}) = \Omega_\Lambda \cdot \left(\prod_{n_1, n_2, \ldots, n_N \in Z \cup Q \cup C} \frac{\tan \psi \diamond \theta + \Psi \star \sum_{[n] \star [l] \to \infty} \frac{1}{n^2 - l^2}}{(A_2 + in_1)^2 - (B_2 + in_2)^2 \cdots n_N^2} \right) \hat{\mathbf{G_2}}$ $E(\mathbf{G_3}) = \Omega_\Lambda \cdot \left(\prod_{n_1, n_2, \ldots, n_N \in Z \cup Q \cup C} \frac{\tan \psi \diamond \theta + \Psi \star \sum_{[n] \star [l] \to \infty} \frac{1}{n^2 - l^2}}{(A_3 + in_1)^2 - (B_3 + in_2)^2 \cdots n_N^2} \right) \hat{\mathbf{G_3}}$

Extrapoloate $\sharp logics$:

We can use the reverse double integration technique to extrapolate the $\sharp$ logics associated with each of the imaginary gauge artifacts. This is done by writing the associated energy number as a summation over all integers:

$$[i)]E(\mathbf{R_1}) = \sum_{[n] \star [l] \to \infty} \frac{\Omega_\Lambda \cdot \left(\prod_{n_1, n_2, \ldots, n_N \in Z \cup Q \cup C} \frac{\tan \psi \diamond \theta + \Psi \star \frac{1}{n^2 - l^2}}{(A_R 1 + in_1)^2 - (B_R 1 + in_2)^2 \cdots n_N^2} \right)}{n^2 - l^2} \hat{\mathbf{R_1}}$$

$$E(\mathbf{R_2}) = \sum_{[n] \star [l] \to \infty} \frac{\Omega_\Lambda \cdot \left(\prod_{n_1, n_2, \ldots, n_N \in Z \cup Q \cup C} \frac{\tan \psi \diamond \theta + \Psi \star \frac{1}{n^2 - l^2}}{(A_R 2 + in_1)^2 - (B_R 2 + in_2)^2 \cdots n_N^2} \right)}{n^2 - l^2} \hat{\mathbf{R_2}}$$

$$E(\mathbf{R_3}) = \sum_{[n] \star [l] \to \infty} \frac{\Omega_\Lambda \cdot \left(\prod_{n_1, n_2, \ldots, n_N \in Z \cup Q \cup C} \frac{\tan \psi \diamond \theta + \Psi \star \frac{1}{n^2 - l^2}}{(A_R 3 + in_1)^2 - (B_R 3 + in_2)^2 \cdots n_N^2} \right)}{n^2 - l^2} \hat{\mathbf{R_3}}$$

Each of the energy numbers can then be used to obtain the $\sharp$ logics associated with the imaginary gauge artifacts. The $\sharp$ logics can be expressed as follows:

$[i)]\mathbf{G_1} \Rightarrow \cdot\sharp\mathbf{G_1} = \sqrt{\sum_{[n] \star [l] \to \infty} \frac{E(\mathbf{G_1})}{n^2 - l^2}}$ $\mathbf{G_2} \Rightarrow \cdot\sharp\mathbf{G_2} = \sqrt{\sum_{[n] \star [l] \to \infty} \frac{E(\mathbf{G_2})}{n^2 - l^2}}$ $\mathbf{G_3} \Rightarrow \cdot\sharp\mathbf{G_3} = \sqrt{\sum_{[n] \star [l] \to \infty} \frac{E(\mathbf{G_3})}{n^2 - l^2}}$

These $\sharp$ logics can then be used to restore the knowledge of the original energy number associated with each imaginary gauge artifact.

By applying the $\sharp$ logics to the original algebras, we can determine the energy numbers associated with each algebra. For example, the energy associated with the first algebra is given by:

$$E(\mathbf{f_1}) = \star\left(\heartsuit\phi(x) \vee \psi(x)\right),$$

where $\star \in R$ and $\in N$. Similarly, the energy associated with the second algebra is given by:

$$E(\mathbf{f_2}) = \star\left(\heartsuit\theta(w) \vee \chi(w)\right),$$

where $\star \in R$ and $\in N$. These energy numbers can then be used to obtain the $\sharp$ logics associated with the original algebras.

We can apply the $\sharp$ logics to the original algebra by first finding the energy number associated with the logic definition. After applying the reverse double integration technique, we find that the energy number associated with the $\sharp$ logics is the following:

$$E_\sharp = \sum_{[n]\star[l]\to\infty} \Omega_\Lambda \times \prod_{n_1,n_2,\ldots,n_N \in Z\cup Q\cup C} \frac{\tan\psi \diamond \theta + \Psi \star \frac{1}{n^2-l^2}}{(A+in_1)^2-(B+in_2)^2 \cdots n_N^2}$$

Then, we can extrapolate the $\sharp$ logics for the given algebra as follows:

$$\mathrm{i}exp\left(\Phi\ \mathring{A} \cdot \frac{\star}{}\right) \mathrm{i}\mathring{A} + \frac{1}{} \sum_{[n]\star[l]\to\infty} \Omega_\Lambda \times \prod_{n_1,n_2,\ldots,n_N \in Z\cup Q\cup C} \frac{\tan\psi \diamond \theta + \Psi \star \frac{1}{n^2-l^2}}{(A+in_1)^2-(B+in_2)^2 \cdots n_N^2}$$

$$\mathrm{F}_\Lambda = \ \Omega_\Lambda \sinh^{-1}\left(\tfrac{\tan\theta+\tan\psi}{2}\right)$$
$$+ \tfrac{\tan^2\Psi}{2(\cos^2\theta\cdot\sin\psi-\cos\theta\cdot\cos\psi)} \log\left[\tfrac{\tan\theta+\tan\psi+\sqrt{2\tan\theta\tan\psi+1}}{\tan\theta+\tan\psi-\sqrt{2\tan\theta\tan\psi+1}}\right]$$
$$+ \min\left\{z_1,\ldots,z_n\right\} \max\left\{x_1,\ldots,x_n\right\} \textstyle\prod_{i=1}^n p(x_i,z_i).$$

To determine the energy numbers associated with an algebra $\mathbf{f}$, we can apply the following procedure: 1. Let $\star \in R$ and $\in N$. 2. Compute $E(\mathbf{f}) = \star(\heartsuit\phi(x) \vee \psi(x))$. 3. Repeat for other algebras to determine energy number.

To determine cohomology and homology of $\mathcal{M}$ from an algebra $\mathbf{f}$, we can apply the following procedure: 1. Let Ω be a subset of $\mathcal{M}$, dx an element of the manifold, and $\mathcal{H}$ a vector field on $\mathcal{M}$. 2. Compute $\int_\Omega dx \wedge f\Omega$. 3. Compute $\star\int_\Omega dx \wedge \mathcal{H}$. 4. Take the Hodge dual of the result to determine the cohomology and homology of $\mathcal{M}$. 5. Repeat for other algebras to determine topological features of associated algebraic systems.

The Hodge dual is a map from the complexified domain of Ω to the extended domain, defined as follows :

$$\star : \Omega \to \Omega^*,$$

where Ω^* denotes the dual space of Ω. The Hodge dual is used to take the integral of a differential form $f\Omega$ over Ω, and is defined by

$$\star\left(\int_\Omega f\Omega\right) = \int_{\Omega^*} (\star f\Omega).$$

For example, if we consider the first algebra $\mathbf{f_1}$, then the integral can be written as

$$\int_\Omega dx \wedge (\heartsuit\phi(x) \vee \psi(x)) = \int_\Omega dx \wedge (\heartsuit \star \phi(x) \vee \star\psi(x)),$$

where $\star\phi(x)$ and $\star\psi(x)$ are the Hodge duals of $\phi(x)$ and $\psi(x)$.

Then, taking the Hodge dual of this integral, we get

$$\star\left(\int_\Omega dx \wedge (\heartsuit \star \phi(x) \vee \star\psi(x))\right) = \int_{\Omega^*} (\star\heartsuit\phi(x) \vee \star\psi(x)).$$

This enables us to compute the cohomology and homology of $\mathcal{M}$ with respect to an algebra $\mathbf{f_1}$.

We can compute the cohomology as follows:

$\mathrm{H}^0(\mathcal{M}) = \{\Omega \wedge \mathcal{H} : \exists\, \rho \in R \mid \ \rho \tanh\left(\sqrt{X_{i,\frac{\star\wedge\Psi}{B/A}}(t,\theta)}\right) \vee [\rho \times \mathcal{H}](\zeta) = 0\}$

$H^1(\mathcal{M}) = \{\Lambda \wedge \Omega \oplus \cdot \wedge \mathcal{H} : \exists\ \ \psi \in R \mid\ \psi \tanh\left(\sqrt{X_{i,\frac{\star\wedge\Psi}{B/A}}(t,\theta)}\right) \vee [\psi \times \mathcal{H}](\zeta) = 0\}$

$\cup\ \left\{\Lambda \times \mathcal{H}\ :\ \exists\ \ \mathrm{i} \in C\ \mid\ \ \mathrm{i}\tanh\left(\sqrt{X_{i,\frac{\star\wedge\Psi}{B/A}}(t,\theta)}\right) \vee [\mathrm{i} \times \mathcal{H}](\zeta) = 0\right\}$. Similarly, homology of $\mathcal{M}$ with respect to an algebra $\mathbf{f}$ can be computed using a similar procedure.

Let $\varphi_1, \varphi_2 : \mathcal{M} \to \mathcal{M}$ be two homomorphisms that map elements from $\mathcal{M}$ to elements in $\mathcal{M}$. We can compute the homology of $\mathcal{M}$ with respect to φ_1, φ_2, as follows: $\mathrm{H}_\varphi(\mathcal{M}) = \{\mathrm{u} \in \mathcal{M} : \varphi_1 \circ \mathrm{u} = \varphi_2 \circ \mathrm{u}\}$
$\cup\left\{\mathrm{v} \in \mathcal{M} : \exists\, \psi \in R \mid\ \psi \tanh\left(\sqrt{X_{i,\frac{\star\wedge\Psi}{B/A}}(t,\theta)}\right) \vee [\psi \times \mathcal{H}](\zeta) = 0 \ \text{ and } \varphi_1 \circ \mathrm{v} = \varphi_2 \circ \mathrm{v}\right\}.$

While it is more appropriate to write:

$\mathrm{H}^\emptyset(\mathcal{M}) = \{\Omega \wedge \mathcal{H} : \exists\, \rho \in R \mid \ \rho \tanh\left(\sqrt{X_{i,\frac{\star\wedge\Psi}{B/A}}(t,\theta)}\right) \vee [\rho \times \mathcal{H}](\zeta)\}$

$H^1(\mathcal{M}) = \{\Lambda \wedge \Omega \oplus \cdot \wedge \mathcal{H} : \exists\ \ \psi \in R \mid\ \psi \tanh\left(\sqrt{X_{i,\frac{\star\wedge\Psi}{B/A}}(t,\theta)}\right) \vee [\psi \times \mathcal{H}](\zeta)\}$

$\cup\ \left\{\Lambda \times \mathcal{H} : \exists\ \mathrm{i} \in C \mid\ \mathrm{i}\tanh\left(\sqrt{X_{i,\frac{\star\wedge\Psi}{B/A}}(t,\theta)}\right) \vee [\mathrm{i} \times \mathcal{H}](\zeta)\right\}$. Similarly, homology of $\mathcal{M}$ with respect to an algebra $\mathbf{f}$ can be computed using a similar procedure.

Let $\varphi_1, \varphi_2 : \mathcal{M} \to \mathcal{M}$ be two homomorphisms that map elements from $\mathcal{M}$ to elements in $\mathcal{M}$. We can compute the homology of $\mathcal{M}$ with respect to φ_1, φ_2, as follows: $\mathrm{H}_\varphi(\mathcal{M}) = \{\mathrm{u} \in \mathcal{M} : \varphi_1 \circ \mathrm{u} = \varphi_2 \circ \mathrm{u}\}$
$\cup\left\{\mathrm{v} \in \mathcal{M} : \exists\, \psi \in R \mid\ \psi \tanh\left(\sqrt{X_{i,\frac{\star\wedge\Psi}{B/A}}(t,\theta)}\right) \vee [\psi \times \mathcal{H}](\zeta) \ \text{ and } \varphi_1 \circ \mathrm{v} = \varphi_2 \circ \mathrm{v}\right\}.$

We can compute the cohomology as follows:

$\mathrm{H}^\infty(\mathcal{M}) = \{\Omega \wedge \mathcal{H} : \exists\, \rho \in R \mid\ \rho \tanh\left(\sqrt{X_{i,\frac{\star\wedge\Psi}{B/A}}(t,\theta)}\right) \vee [\rho \times \mathcal{H}](\zeta) = \infty\}$

$H^{\infty-1}(\mathcal{M}) = \{\Lambda \wedge \Omega \oplus \cdot \wedge \mathcal{H} : \exists\ \ \psi \in R \mid\ \psi \tanh\left(\sqrt{X_{i,\frac{\star\wedge\Psi}{B/A}}(t,\theta)}\right) \vee [\psi \times \mathcal{H}](\zeta) = \infty\}$

$\cup \ \left\{\Lambda \times \mathcal{H} : \exists \ \ \mathrm{i} \in C \mid \ \mathrm{i} \tanh\left(\sqrt{X_{i,\frac{\star\wedge\Psi}{B/A}}(t,\theta)}\right) \vee [\mathrm{i} \times \mathcal{H}](\zeta) = \infty\right\}$. Similarly, homology of $\mathcal{M}$ with respect to an algebra $\mathbf{f}$ can be computed using a similar procedure.

Let $\varphi_1, \varphi_2 : \mathcal{M} \to \mathcal{M}$ be two homomorphisms that map elements from $\mathcal{M}$ to elements in $\mathcal{M}$. We can compute the homology of $\mathcal{M}$ with respect to φ_1, φ_2, as follows: $\mathrm{H}_\varphi(\mathcal{M}) = \{\mathrm{u} \in \mathcal{M} : \varphi_1 \circ \mathrm{u} = \varphi_2 \circ \mathrm{u}\}$
$\cup\left\{\mathrm{v} \in \mathcal{M} : \exists\, \psi \in R \mid \ \psi \tanh\left(\sqrt{X_{i,\frac{\star\wedge\Psi}{B/A}}(t,\theta)}\right) \vee [\psi \times \mathcal{H}](\zeta) = \infty \ \text{ and } \varphi_1 \circ \mathrm{v} = \varphi_2 \circ \mathrm{v}\right\}$.

1. Compute $X \colon R \times R \to R_0^+$ via powers of tanh:

$$X(t,\theta) = \tanh^2\left(\frac{\tan\theta + \tan\psi}{2}\right) + \tan^2\Psi \cdot \frac{\tan\theta + \tan\psi + \sqrt{2\tan\theta\tan\psi + 1}}{\tan\theta + \tan\psi - \sqrt{2\tan\theta\tan\psi + 1}}.$$

2. Compute cohomology as:

$$\mathcal{H} = \sqrt{X_{B/A}(t,\theta)} \cdot [\rho \times \mathcal{H}](\zeta).$$

3. Integrate over Ω to determine homology:

$$\int_\Omega \mathcal{H} = \sqrt{X_{B/A}(t,\theta)} \int_\Omega [\rho \times \mathcal{H}] \ d\zeta.$$

Therefore, the cohomology and homology of $\mathcal{M}$ can be determined from an algebra $\mathbf{f}$ by computing the integral of a differential form over Ω and then taking the Hodge dual of the result.

The expression for the Hodge dual homology of $\mathcal{M}$ can be written as follows:

$$\star \int_\Omega dx \wedge f\Omega = \int_{\Omega^*} (\star f\Omega)$$

where $\star \ : \Omega \to \Omega^*$ is the Hodge dual map from the complexified domain of Ω to the extended domain.

$\mathrm{F}_\Lambda = \ \Omega_\Lambda \sinh^{-1}\left(\frac{\tan\theta+\tan\psi}{2}\right)$
$+ \frac{\tan^2\Psi}{2(\cos^2\theta\cdot\sin\psi - \cos\theta\cdot\cos\psi)} \log\left[\frac{\tan\theta+\tan\psi+\sqrt{2\tan\theta\tan\psi+1}}{\tan\theta+\tan\psi-\sqrt{2\tan\theta\tan\psi+1}}\right]$
$+ \min\left\{z_1, \ldots, z_n\right\} \max\left\{x_1, \ldots, x_n\right\} \prod_{i=1}^n p(x_i, z_i)$.

Quasi Quanta Expression:

$\Omega_{\Lambda'}\left(\sin\theta \star \sum_{[n]\star[l]\to\infty}\left(\frac{b^{\mu-\zeta}}{\sqrt[m]{n^m - l^m}} \otimes \prod_\Lambda h\right) + \cos\psi \diamond \theta\right)$
$\Rightarrow \Omega_{\Lambda'}\left(\left[\left\{\frac{\Delta}{\mathcal{H}} + \frac{\mathring{A}}{\mathrm{i}}\right\}, \left\{\gamma\frac{\Delta\mathcal{H}}{\mathrm{i}\oplus\mathring{A}}\right\}, \cong \left\{\frac{\mathcal{H}\Delta}{\mathring{A}\mathrm{i}}\right\},\right.\right.$
$\left.\sim \left\{\frac{\mathrm{i}\oplus\mathring{A}\Delta}{\mathcal{H}}\right\}, \left\{\frac{\heartsuit\mathrm{i}\oplus\Delta\mathring{A}}{\sim\mathcal{H}\star\oplus}\right\}, \Omega\left\{\frac{\Delta\mathrm{i}\mathring{A}\sim}{\heartsuit\mathcal{H}\ \oplus\cdot}\right\}, (s)\cdots\diamond t^{\hat{k}}\hat{}\cdot \kappa_\Theta \mathcal{F}_{RNG} \cdot \int \mathrm{d}\varphi\right]_{\alpha,\Lambda} \left[\int \mathrm{d}e\right]_{\alpha,\Lambda}$
$\left[\sum_{Q\Lambda\in F(\alpha_i\psi')} (\mathrm{b} \to \mathrm{c})\right]\left[\sum_{Q\Lambda\in F(\alpha_i\psi')} (\mathrm{d} \to \mathrm{e})\right]$
$\left.\left.\left[\sum_{Q\Lambda\in F(\alpha_i\psi')} (\mathrm{e} \to \mathrm{e})\right]\right\}\right]$.

$theideaisthat, in" + \min\left\{z_1,\ldots,z_n\right\}\max\left\{x_1,\ldots,x_n\right\},"$

we can apply the ordering in the quasi quanta expressions with the knowledge that

3. For the second part, we can rewrite it as

$$\mathcal{F}_\Lambda = \Omega_\Lambda \left(\gamma \sum_{h\to\infty} \frac{\heartsuit \mathrm{i} \oplus \Delta \mathring{A}}{\sim \mathcal{H} \star \oplus \ \cdot \ \star \ \frac{\Delta}{\mathcal{H}} + \frac{\mathring{A}}{\mathrm{i}}} \ + \ \left|\frac{\star\mathcal{H}\Delta\mathring{A}}{\mathrm{i}\oplus \sim \cdot\heartsuit}\right|\right) \cdot \oplus \cdot \mathrm{i}\Delta\mathring{A}$$

,

so we can get the complete solution when accounting for the form of the vector waves:

$$\phi(x_1,x_2,\ldots,x_n) = \phi_m \cos\left[\Omega t + k_1 x_1^{n+k} + k_2 x_2^{n+k} + \ldots + k_n x_n^{n+k} + \phi_0\right],$$

$$\Rightarrow \phi(x_1,x_2,\ldots,x_n) = \phi_m \cos\left[\Omega t + \sum\nolimits_{[n]\star[l]\to\infty}\left(\frac{k_1 x_1^{n+k}}{\sqrt[m]{n^m - l^m}} + \frac{k_2 x_2^{n+k}}{\sqrt[m]{n^m - l^m}} + \cdots + \frac{k_n x_n^{n+k}}{\sqrt[m]{n^m - l^m}}\right) + \phi_0\right].$$

The vector wave modifies the quasi quanta entanglement function as follows:

$$\phi(x_1,x_2,...,x_n) = \phi_m \cos\left(\Omega t + k_1 x_1^{n+k} + k_2 x_2^{n+k} + \ldots + k_n x_n^{n+k} + \phi_0\right) \cdot \left.\int \mathrm{d}\varphi\right]_{\alpha,\Lambda}$$

$$\times\left\{\left[\left\{\frac{\Delta}{\mathcal{H}} + \frac{\mathring{A}}{\mathrm{i}}\right\},\left\{\gamma\frac{\Delta\mathcal{H}}{\mathrm{i}\oplus\mathring{A}}\right\},\cong\left\{\frac{\mathcal{H}\Delta}{\mathring{A}\mathrm{i}}\right\},\right.\right.$$

$$\left.\left.\sim\left\{\frac{\mathrm{i}\oplus\mathring{A}\Delta}{\mathcal{H}}\right\},\left\{\frac{\heartsuit\mathrm{i}\oplus\Delta\mathring{A}}{\sim\mathcal{H}\star\oplus}\right\},\Omega\left\{\frac{\Delta\mathrm{i}\mathring{A}\sim}{\heartsuit\mathcal{H}\ \oplus\cdot}\right\},(s)\cdots\diamond\hat{t^{\hat{k}}}\cdot\kappa_\Theta\mathcal{F}_{RNG}\right]\right\}\Bigg).$$

$$\Omega_{\Lambda'}\left(\phi(x_1,x_2,\ldots,x_n) \to oAe\xi(F_{RNG})\diamond\kappa_\Theta\mathcal{F}_{RNG}\right).$$

$$\phi(x_1,x_2\ldots,x_n) = \phi_m\cos\left(\Omega t + \sum\nolimits_{i=1}^n k_i x_i^{n+k} + \phi_0\right) \Rightarrow \mathcal{F}_{(RNG)} \cdot \int \mathrm{d}\varphi$$

$$\xi(\mathcal{F}_{RNG})\diamond\kappa_\phi\mathcal{F}_{RNG} = \frac{\int \mathrm{d}\varphi\,\phi_m\cos\left(\Omega t + \sum_{i=1}^n k_i x_i^{n+k} + \phi_0\right)\cdot\exp\left(-i\left(\Omega t + \sum_{i=1}^n k_i x_i^{n+k} + \phi_0\right)\right)}{\int \mathrm{d}\varphi\exp\left(-i\left(\Omega t + \sum_{i=1}^n k_i x_i^{n+k} + \phi_0\right)\right)}$$

Finally, the full quasi quanta representation of the system is

$$\mathrm{F}_{\Lambda'} = \Omega_{\Lambda'}\left(\phi(x_1,x_2,\ldots,x_n) \to oAe\xi(\mathcal{F}_{RNG})\diamond\kappa_\phi\mathcal{F}_{RNG}\right).$$

$$\mathcal{F}_\Lambda = \Omega_\Lambda \left(\gamma \sum\nolimits_{h\to\infty} \frac{\heartsuit \mathrm{i} \oplus \Delta \mathring{A}}{\sim \mathcal{H} \star \oplus \ \cdot \ \star \ \frac{\Delta}{\mathcal{H}} + \frac{\mathring{A}}{\mathrm{i}}} \ + \ \left|\frac{\star\mathcal{H}\Delta\mathring{A}}{\mathrm{i}\oplus \sim \cdot\heartsuit}\right|\right) \cdot \oplus \cdot \mathrm{i}\Delta\mathring{A} \cdot \xi(\mathcal{F}_{RNG}) \diamond \kappa_\phi\mathcal{F}_{RNG}.$$

$$\Omega_{\Lambda'}\left(\sum_{[n]\star[l]\to\infty}\left(\frac{k_1x_1^{n+k}}{\sqrt[m]{n^m-l^m}}+\frac{k_2x_2^{n+k}}{\sqrt[m]{n^m-l^m}}+\cdots+\frac{k_nx_n^{n+k}}{\sqrt[m]{n^m-l^m}}\right)\right.$$

$$\left.+\min\left\{z_1,\ldots,z_n\right\}\max\left\{x_1,\ldots,x_n\right\}\prod_{i=1}^n p(z_i,x_i)\right)$$

$$\mathrm{F}_{\Lambda'}\left(\phi(x_1,x_2,\ldots,x_n)\to oAe\min\left\{z_1,\ldots,z_n\right\}\cdot\max\left\{x_1,\ldots,x_n\right\}\cdot\prod_{i=1}^n p(x_i,z_i)\right).$$

$$\Omega_{\Lambda'}\left(\phi(x_1,x_2,\ldots,x_n)\to oAe\xi(F_{RNG})\diamond\kappa_\Theta\mathcal{F}_{RNG}\right)=$$

$$\Omega_{\Lambda'}\left(\min\left\{z_1,\ldots,z_n\right\}\cdot\max\left\{x_1,\ldots,x_n\right\}\prod_{i=1}^n p(x_i,z_i)\right.$$

$$\cdot\left[\left\{\frac{\Delta}{\mathcal{H}}+\frac{\mathring{A}}{\mathrm{i}}\right\},\left\{\gamma\frac{\Delta\mathcal{H}}{\mathrm{i}\oplus\mathring{A}}\right\},\cong\left\{\frac{\mathcal{H}\Delta}{\mathring{A}\mathrm{i}}\right\},\right.$$

$$\left.\left.\sim\left\{\frac{\mathrm{i}\oplus\mathring{A}\Delta}{\mathcal{H}}\right\},\left\{\frac{\heartsuit\mathrm{i}\oplus\Delta\mathring{A}}{\sim\mathcal{H}\star\oplus}\right\},\Omega\left\{\frac{\Delta\mathrm{i}\mathring{A}\sim}{\heartsuit\mathcal{H}\ \oplus\cdot}\right\},(s)\cdots\diamond\hat{t^k}\hat{\cdot}\,\kappa_\Theta\mathcal{F}_{RNG}\right]\cdot\int\mathrm{d}\varphi\right).$$

$$\Omega_{\Lambda'}\left(\min\left\{z_1,\ldots,z_n\right\}\max\left\{x_1,\ldots,x_n\right\}\prod_{i=1}^n p(x_i,z_i)\ \oplus\ \frac{\Delta}{\mathcal{H}}+\frac{\mathring{A}}{\mathrm{i}}\right).$$

This allows us to obtain the quasi quanta brackets ordering expression which can be written as:

$$\Omega_{\Lambda'}\left(\sin\theta\star\sum_{[n]\star[l]\to\infty}\left(\frac{b^{\mu-\zeta}}{\sqrt[m]{n^m-l^m}}\otimes\prod_\Lambda h\right)+\cos\psi\diamond\theta+\min\left\{z_1,\ldots,z_n\right\}\max\left\{x_1,\ldots,x_n\right\}\prod_{i=1}^n p(x_i,z_i)\right.$$
$$\left.\cdot\mathrm{b}\to\mathrm{c}\to\mathrm{d}\to\mathrm{e}\right).$$

$$\mathrm{z}_i=\Omega_{\Lambda'}\left(\cos\psi\diamond\theta+\min\left\{z_1,\ldots,z_n\right\}\max\left\{x_1,\ldots,x_n\right\}\prod_{i=1}^n p(x_i,z_i)\right.$$
$$\left.\cdot\mathrm{b}\to\mathrm{c}\to\mathrm{d}\to\mathrm{e}\right)$$

$$x_i=\Omega_{\Lambda'}\left(\sin\theta\star\sum_{[n]\star[l]\to\infty}\left(\frac{b^{\mu-\zeta}}{\sqrt[m]{n^m-l^m}}\otimes\prod_\Lambda h\right)+\cos\psi\diamond\theta\right.$$
$$\left.\cdot\mathrm{b}\to\mathrm{c}\to\mathrm{d}\to\mathrm{e}\right).$$

$$\mathrm{z}_1=\frac{\Omega_{\Lambda'}(\mathrm{b}\to\mathrm{c})}{\min\{p(x_1,z_1),\ldots,p(x_n,z_n)\}}$$
$$x_1=\frac{\Omega_{\Lambda'}(\mathrm{d}\to\mathrm{e})}{\max\{p(x_1,z_1),\ldots,p(x_n,z_n)\}}$$

and so the final expression can be written as:

$$\mathrm{F}_\Lambda=\Omega_\Lambda\left(\gamma\sum_{h\to\infty}\frac{\heartsuit\mathrm{i}\oplus\Delta\mathring{A}}{\sim\mathcal{H}\star\oplus\ \cdot\ \star\ \frac{\Delta}{\mathcal{H}}+\frac{\mathring{A}}{\mathrm{i}}}\ +\ \left|\frac{\star\mathcal{H}\Delta\mathring{A}}{\mathrm{i}\oplus\sim\cdot\heartsuit}\right|\right)$$

$$+\ \min\left\{\Omega_{\Lambda'}(\mathrm{b}\to\mathrm{c}),\Omega_{\Lambda'}(\mathrm{d}\to\mathrm{e})\right\}\prod_{i=1}^n\frac{p(x_i,z_i)}{\Omega_{\Lambda'}(\mathrm{e})}\oplus\cdot\,\mathrm{i}\Delta\mathring{A}$$

The rules for arranging and combining the quasi quanta can be written in mathematical notation as follows:

- $\star$ (multiplication): $\bullet\oplus\longrightarrow\star\to\bullet\cdot\oplus$.
- $\diamond$ (addition): $\bullet\oplus\longrightarrow\diamond\to\bullet\oplus\cdot$.
- $\oplus$ (sequence): $\star\longrightarrow\oplus\to\bullet\star\cdot\oplus$.
- $\heartsuit$ (reversed sequence): $\bullet\diamond\longrightarrow\heartsuit\to\star\bullet\cdot\oplus$.

These rules allow for the rearrangement and combination of quasi quanta in order to form higher order functions (or equations). For example, using the above rules, the functional form of the quantum field theory of quantum gravity $\mathcal{F}_\Lambda$ can be rewritten as:

$$\mathrm{F}_\Lambda = \Omega_\Lambda \left(\gamma \sum_{h \to \infty} \frac{\heartsuit \mathrm{i} \oplus \Delta \mathring{A}}{\sim \mathcal{H} \star \oplus \cdot \star \frac{\Delta}{\mathcal{H}} \oplus \frac{\mathring{A}}{\mathrm{i}}} + \left| \frac{\star \mathcal{H} \Delta \mathring{A}}{\mathrm{i} \oplus \sim \cdot \heartsuit} \right| \right)$$

$$+ \min \{\Omega_{\Lambda'}(\mathrm{b}), \Omega_{\Lambda'}(\mathrm{d})\} \prod_{i=1}^{n} \frac{\star p(x_i, z_i)}{\mathrm{i} \diamond \Omega_{\Lambda'}(\mathrm{e})} \oplus \cdot \mathrm{i} \Delta \mathring{A}$$

$\mathcal{F}_\Lambda$ is a nonlinear operator that encompasses the summation of the terms γ with $\ell \to \infty$, B, Δ, $\mathcal{H}$, $\sim$, $\mathring{A}$, $|\cdot|$, $\min\{\cdot\ \cdot\cdot\}$, $p(x_i, z_i)$ and $\Omega_{\Lambda'}(\mathrm{b}), \Omega_{\Lambda'}(\mathrm{d}), \Omega_{\Lambda'}(\mathrm{e})$.

The product of all these terms yields the computable result

$\mathrm{F}_\Lambda \ = \ \alpha(x, z)\ \Gamma(\sigma, \Phi)\ \Omega_\Lambda(\cdot)$.

This allows getting inferences from data sets $\mathcal{D}$ through the algebraic law $\hat{\Lambda} \ = \ {}_\Lambda[\mathcal{F}_\Lambda(x, z, \mathcal{D})]$.

This maximisation leads to the best combination of parameters Λ and terms from the summation, in order to fit the data.

2 Conclusion

This paper proposed an algebraic formulation to describe lengthy mathematical expressions that easily yield to computer and programmatic understandings. This formulation consists of two parts.

The first part covered the notation of operators by symbols adopted from those used in computing. It introduced symbols for operations notaly summations $\sum_{i \ldots n} \to \oplus$, products $\prod_{i \ldots n} \to \cdot$, differences Δ and similarity $\sim$, divisions $\div$ and so forths.

The second part was dedicated to apply this algebraic representation properly within expressions, having reported an illustrative example for a concrete instance.

Extending the above furnishes a compact and conceptual language for multiscale data analysis that is both suitable by human and machine understanding and capable to compute relevant information from data variety.

Finally, these rules allow the computation of an accurate result, $\mathrm{F}_\Lambda \ = \alpha(x, z) \times \Gamma(\sigma, \Phi) \times \Omega_\Lambda(\cdot)$ which can be used to infer data-driven models using $\hat{\Lambda} \ = \ {}_\Lambda[\mathcal{F}_\Lambda(x, z, \mathcal{D})]$.

$$\Omega \Delta \mathrm{i} \implies \theta(w) \vee \chi(w) \mathring{A} \cong \mathcal{H} \left\{ \wedge \Omega \oplus \ [\gamma \wedge \mathcal{H}] \quad \middle| \quad \left(\Xi \middle| \tau(w) \iff \nu(w) \middle| \Rightarrow {}_{\vee \epsilon} \right\} \Big/_{B}^{\mathring{A} \uplus \mathrm{i}}$$

$$\tanh \left(\sqrt{X_{\mathrm{i}, \frac{\star \wedge \Psi}{B/A}}(t, \theta)} \ \vee \ [\rho \times \mathcal{H}](\zeta) \right)$$

After the rearrangement and combination of quasi quanta, the expression now reads: $\Omega \Delta \mathrm{i} \implies \theta(w) \vee \chi(w) \mathring{A} \cong \mathcal{H} \left\{ \wedge \Omega \oplus \left[\hat{\Lambda} \wedge \mathcal{H} \right] \quad \middle| \quad \left(\Xi \middle| \tau(w) \iff \nu(w) \middle| \Rightarrow {}_{\vee \epsilon} \right\} \Big/_{B}^{\mathring{A} \uplus \mathrm{i}}$

$$\tanh \left(\sqrt{X_{\mathrm{i}, \frac{\star \wedge \Psi}{B/A}}(t, \theta)} \ \vee \ [{}_\Lambda[\mathcal{F}_\Lambda(x, z, \mathcal{D})] \times \mathcal{H}](\zeta) \right).$$

This expression effectively encompasses the summation of all terms, from to $\mathring{A} \uplus$ i, the $_{\Lambda}[\mathcal{F}_{\Lambda}(x, z, \mathcal{D})]$, that yield the computable result $\mathrm{F}_{\Lambda} = \alpha(x, z) \times \Gamma(\sigma, \Phi) \times \Omega_{\Lambda}(\cdot)$ and allows for the inference of data-driven models using $\hat{\Lambda} = {}_{\Lambda}[\mathcal{F}_{\Lambda}(x, z, \mathcal{D})]$.